

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
625, 8015
RUSH Weekly Red Hill

JOB NUMBER

380-95026-1

Eurofins Eaton Analytical Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

Authorization



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Authorized for release by
Rachelle Arada, Project Manager
Rachelle.Arada@et.eurofinsus.com
(626)386-1106

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Definitions/Glossary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: City & County of Honolulu
Project: RED-HILL

Job ID: 380-95026-1

Job ID: 380-95026-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-95026-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/9/2024 10:44 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5°C and 4.8°C.

Subcontract Work

Method 625 PAH Physis LL (EAL) + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Gasoline Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

Method 8015B_DRO_LL_CS: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-440703. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Detection Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Client Sample ID: MOANALUA WELLS **Lab Sample ID: 380-95026-1**
PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 **Lab Sample ID: 380-95026-2**
PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 **Lab Sample ID: 380-95026-3**
PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 **Lab Sample ID: 380-95026-4**
PWSID Number: HI0000331

No Detections.

Client Sample ID: TB MOANALUA WELLS **Lab Sample ID: 380-95026-5**

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 2 **Lab Sample ID: 380-95026-6**

No Detections.

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2 **Lab Sample ID: 380-95026-7**

No Detections.

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1 **Lab Sample ID: 380-95026-8**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-95026-1

Date Collected: 05/07/24 09:34

Matrix: Drinking Water

Date Received: 05/09/24 10:44

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 19:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		38 - 134				05/16/24 19:21	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<27		27	ug/L		05/14/24 22:42	05/27/24 22:32	1
Motor Oil Range Organics [C24-C36]	<27		27	ug/L		05/14/24 22:42	05/27/24 22:32	1
C8-C18	<27		27	ug/L		05/14/24 22:42	05/27/24 22:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	103		60 - 130			05/14/24 22:42	05/27/24 22:32	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Acenaphthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Biphenyl	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Chrysene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/10/24 00:00	06/09/24 08:32	1
Fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Fluorene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Naphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Phenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 08:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	74		27 - 133				05/10/24 00:00	06/09/24 08:32	1
(d10-Phenanthrene)	81		43 - 129				05/10/24 00:00	06/09/24 08:32	1
(d12-Chrysene)	97		52 - 144				05/10/24 00:00	06/09/24 08:32	1
(d12-Perylene)	84		36 - 161				05/10/24 00:00	06/09/24 08:32	1
(d8-Naphthalene)	69		25 - 125				05/10/24 00:00	06/09/24 08:32	1

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Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-95026-2

Date Collected: 05/07/24 10:30

Matrix: Drinking Water

Date Received: 05/09/24 10:44

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 19:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		38 - 134				05/16/24 19:47	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<27		27	ug/L		05/14/24 22:42	05/27/24 22:53	1
Motor Oil Range Organics [C24-C36]	<27		27	ug/L		05/14/24 22:42	05/27/24 22:53	1
C8-C18	<27		27	ug/L		05/14/24 22:42	05/27/24 22:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	102		60 - 130			05/14/24 22:42	05/27/24 22:53	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Acenaphthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Biphenyl	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Chrysene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/10/24 00:00	06/09/24 10:21	1
Fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Fluorene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Naphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Phenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 10:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	98		27 - 133				05/10/24 00:00	06/09/24 10:21	1
(d10-Phenanthrene)	100		43 - 129				05/10/24 00:00	06/09/24 10:21	1
(d12-Chrysene)	107		52 - 144				05/10/24 00:00	06/09/24 10:21	1
(d12-Perylene)	107		36 - 161				05/10/24 00:00	06/09/24 10:21	1
(d8-Naphthalene)	86		25 - 125				05/10/24 00:00	06/09/24 10:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-95026-3

Date Collected: 05/07/24 11:07

Matrix: Drinking Water

Date Received: 05/09/24 10:44

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 20:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		38 - 134				05/16/24 20:13	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<26		26	ug/L		05/14/24 22:42	05/27/24 23:14	1
Motor Oil Range Organics [C24-C36]	<26		26	ug/L		05/14/24 22:42	05/27/24 23:14	1
C8-C18	<26		26	ug/L		05/14/24 22:42	05/27/24 23:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	101		60 - 130			05/14/24 22:42	05/27/24 23:14	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Acenaphthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Biphenyl	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Chrysene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/10/24 00:00	06/09/24 12:10	1
Fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Fluorene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Naphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Phenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 12:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	88		27 - 133				05/10/24 00:00	06/09/24 12:10	1
(d10-Phenanthrene)	93		43 - 129				05/10/24 00:00	06/09/24 12:10	1
(d12-Chrysene)	104		52 - 144				05/10/24 00:00	06/09/24 12:10	1
(d12-Perylene)	93		36 - 161				05/10/24 00:00	06/09/24 12:10	1
(d8-Naphthalene)	79		25 - 125				05/10/24 00:00	06/09/24 12:10	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-95026-4

Date Collected: 05/07/24 10:01

Matrix: Drinking Water

Date Received: 05/09/24 10:44

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 20:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		38 - 134				05/16/24 20:40	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<26		26	ug/L		05/14/24 22:42	05/27/24 23:34	1
Motor Oil Range Organics [C24-C36]	<26		26	ug/L		05/14/24 22:42	05/27/24 23:34	1
C8-C18	<26		26	ug/L		05/14/24 22:42	05/27/24 23:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	97		60 - 130			05/14/24 22:42	05/27/24 23:34	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Acenaphthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Biphenyl	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Chrysene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/10/24 00:00	06/09/24 13:59	1
Fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Fluorene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Naphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Phenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 13:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	97		27 - 133				05/10/24 00:00	06/09/24 13:59	1
(d10-Phenanthrene)	102		43 - 129				05/10/24 00:00	06/09/24 13:59	1
(d12-Chrysene)	111		52 - 144				05/10/24 00:00	06/09/24 13:59	1
(d12-Perylene)	102		36 - 161				05/10/24 00:00	06/09/24 13:59	1
(d8-Naphthalene)	86		25 - 125				05/10/24 00:00	06/09/24 13:59	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-95026-1
 SDG: 625, 8015

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-95026-5

Date Collected: 05/07/24 09:34

Matrix: Water

Date Received: 05/09/24 10:44

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 17:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		38 - 134				05/16/24 17:37	1

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-95026-6

Date Collected: 05/07/24 10:30

Matrix: Water

Date Received: 05/09/24 10:44

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 18:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		38 - 134				05/16/24 18:03	1

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-95026-7

Date Collected: 05/07/24 11:07

Matrix: Water

Date Received: 05/09/24 10:44

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 18:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		38 - 134				05/16/24 18:29	1

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-95026-8

Date Collected: 05/07/24 10:01

Matrix: Water

Date Received: 05/09/24 10:44

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 18:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		38 - 134				05/16/24 18:55	1

Surrogate Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB1 (38-134)
380-95026-1	MOANALUA WELLS	108
380-95026-2	AIEA GULCH WELLS PUMP 2	105
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	116
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	109
380-95026-4 MS	HALAWA WELLS UNITS 1 & 2 P1	117
380-95026-4 MSD	HALAWA WELLS UNITS 1 & 2 P1	116

Surrogate Legend
BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB1 (38-134)
380-95026-5	TB MOANALUA WELLS	104
380-95026-6	TB AIEA GULCH WELLS PUMP 2	111
380-95026-7	TB AIEA WELLS PUMPS 1&2 (260) P2	111
380-95026-8	TB HALAWA WELLS UNITS 1 & 2 P1	111
LCS 570-441358/4	Lab Control Sample	121
LCSD 570-441358/5	Lab Control Sample Dup	119
MB 570-441358/6	Method Blank	114
MRL 570-441358/3	Lab Control Sample	112

Surrogate Legend
BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
380-95026-1	MOANALUA WELLS	103
380-95026-2	AIEA GULCH WELLS PUMP 2	102
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	101
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	97

Surrogate Legend
OTCSN = n-Octacosane (Surr)

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-95026-1
 SDG: 625, 8015

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
LCS 570-440703/2-A	Lab Control Sample	115
LCSD 570-440703/3-A	Lab Control Sample Dup	95
MB 570-440703/1-A	Method Blank	99

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
117782-B1	Method Blank	95	97	113	86	102
117782-BS1	Lab Control Sample	92	99	115	85	93
117782-BS2	Lab Control Sample Dup	91	99	119	83	96

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
 (d10-Phenanthrene) = (d10-Phenanthrene)
 CRY = (d12-Chrysene)
 NPT = (d8-Naphthalene)
 PRY = (d12-Perylene)

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-95026-1	MOANALUA WELLS	74	81	97	69	84
380-95026-2	AIEA GULCH WELLS PUMP 2	98	100	107	86	107
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	88	93	104	79	93
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	97	102	111	86	102

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
 (d10-Phenanthrene) = (d10-Phenanthrene)
 CRY = (d12-Chrysene)
 NPT = (d8-Naphthalene)
 PRY = (d12-Perylene)

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-441358/6
Matrix: Water
Analysis Batch: 441358

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			05/16/24 16:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		38 - 134				05/16/24 16:34	1

Lab Sample ID: LCS 570-441358/4
Matrix: Water
Analysis Batch: 441358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	400	414		ug/L		103	78 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	121		38 - 134				

Lab Sample ID: LCSD 570-441358/5
Matrix: Water
Analysis Batch: 441358

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	400	410		ug/L		103	78 - 120	1	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	119		38 - 134						

Lab Sample ID: MRL 570-441358/3
Matrix: Water
Analysis Batch: 441358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	10.0	13.6		ug/L		136	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
4-Bromofluorobenzene (Surr)	112		38 - 134				

Lab Sample ID: 380-95026-4 MS
Matrix: Drinking Water
Analysis Batch: 441358

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	<10		400	397		ug/L		99	68 - 122
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	117		38 - 134						

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: 380-95026-4 MSD
Matrix: Drinking Water
Analysis Batch: 441358

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	395		ug/L		99	68 - 122	1	18
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	116		38 - 134								

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 570-440703/1-A
Matrix: Water
Analysis Batch: 444687

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 440703

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		05/14/24 22:42	05/27/24 20:26	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		05/14/24 22:42	05/27/24 20:26	1
C8-C18	<25		25	ug/L		05/14/24 22:42	05/27/24 20:26	1
Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac		
n-Octacosane (Surr)	99		60 - 130	05/14/24 22:42	05/27/24 20:26	1		

Lab Sample ID: LCS 570-440703/2-A
Matrix: Water
Analysis Batch: 444687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 440703

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
C10-C28	1600	1640		ug/L		103	56 - 127
Surrogate	%Recovery	LCS Qualifier	LCS Limits				
n-Octacosane (Surr)	115		60 - 130				

Lab Sample ID: LCSD 570-440703/3-A
Matrix: Water
Analysis Batch: 444687

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 440703

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C10-C28	1600	1340		ug/L		84	56 - 127	20	23
Surrogate	%Recovery	LCSD Qualifier	LCSD Limits						
n-Octacosane (Surr)	95		60 - 130						

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Lab Sample ID: 117782-B1
Matrix: BlankMatrix
Analysis Batch: O-45058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-45058_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	ug/L		05/10/24 00:00	06/09/24 03:08	1

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 117782-B1
Matrix: BlankMatrix
Analysis Batch: O-45058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-45058_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Acenaphthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Biphenyl	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Chrysene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/10/24 00:00	06/09/24 03:08	1
Fluoranthene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Fluorene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Naphthalene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Perylene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Phenanthrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1
Pyrene	ND		0.005	0.001	µg/L		05/10/24 00:00	06/09/24 03:08	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	95		27 - 133	05/10/24 00:00	06/09/24 03:08	1
(d10-Phenanthrene)	97		43 - 129	05/10/24 00:00	06/09/24 03:08	1
(d12-Chrysene)	113		52 - 144	05/10/24 00:00	06/09/24 03:08	1
(d12-Perylene)	102		36 - 161	05/10/24 00:00	06/09/24 03:08	1
(d8-Naphthalene)	86		25 - 125	05/10/24 00:00	06/09/24 03:08	1

Lab Sample ID: 117782-BS1
Matrix: BlankMatrix
Analysis Batch: O-45058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-45058_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.458		µg/L		92	31 - 128
1-Methylphenanthrene	0.5	0.523		µg/L		105	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.491		µg/L		98	55 - 122
2,6-Dimethylnaphthalene	0.5	0.463		µg/L		93	48 - 120
2-Methylnaphthalene	0.5	0.444		µg/L		89	47 - 130
Acenaphthene	0.5	0.472		µg/L		94	53 - 131
Acenaphthylene	0.5	0.486		µg/L		97	43 - 140
Anthracene	0.5	0.489		µg/L		98	58 - 135
Benz[a]anthracene	0.5	0.552		µg/L		110	55 - 145

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 117782-BS1
Matrix: BlankMatrix
Analysis Batch: O-45058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-45058_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[a]pyrene	0.5	0.449		µg/L		90	51 - 143
Benzo[b]fluoranthene	0.5	0.556		µg/L		111	46 - 165
Benzo[e]pyrene	0.5	0.513		µg/L		103	42 - 152
Benzo[g,h,i]perylene	0.5	0.502		µg/L		100	63 - 133
Benzo[k]fluoranthene	0.5	0.525		µg/L		105	56 - 145
Biphenyl	0.5	0.468		µg/L		94	56 - 119
Chrysene	0.5	0.51		µg/L		102	56 - 141
Dibenz[a,h]anthracene	0.5	0.543		µg/L		109	55 - 150
Dibenzo[a,l]pyrene	0.5	0.309		µg/L		62	50 - 150
Dibenzothiophene	0.5	0.51		µg/L		102	46 - 126
Disalicylidenepropanediamine	50	48.1		µg/L		96	50 - 150
Fluoranthene	0.5	0.493		µg/L		99	60 - 146
Fluorene	0.5	0.493		µg/L		99	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.547		µg/L		109	50 - 151
Naphthalene	0.5	0.437		µg/L		87	41 - 126
Perylene	0.5	0.492		µg/L		98	48 - 141
Phenanthrene	0.5	0.501		µg/L		100	67 - 127
Pyrene	0.5	0.434		µg/L		87	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	92		27 - 133
(d10-Phenanthrene)	99		43 - 129
(d12-Chrysene)	115		52 - 144
(d12-Perylene)	93		36 - 161
(d8-Naphthalene)	85		25 - 125

Lab Sample ID: 117782-BS2
Matrix: BlankMatrix
Analysis Batch: O-45058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-45058_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.428		µg/L		86	31 - 128	7	30
1-Methylphenanthrene	0.5	0.577		µg/L		115	66 - 127	9	30
2,3,5-Trimethylnaphthalene	0.5	0.494		µg/L		99	55 - 122	1	30
2,6-Dimethylnaphthalene	0.5	0.464		µg/L		93	48 - 120	0	30
2-Methylnaphthalene	0.5	0.449		µg/L		90	47 - 130	1	30
Acenaphthene	0.5	0.472		µg/L		94	53 - 131	0	30
Acenaphthylene	0.5	0.485		µg/L		97	43 - 140	0	30
Anthracene	0.5	0.525		µg/L		105	58 - 135	7	30
Benz[a]anthracene	0.5	0.567		µg/L		113	55 - 145	3	30
Benzo[a]pyrene	0.5	0.458		µg/L		92	51 - 143	2	30
Benzo[b]fluoranthene	0.5	0.551		µg/L		110	46 - 165	1	30
Benzo[e]pyrene	0.5	0.508		µg/L		102	42 - 152	1	30
Benzo[g,h,i]perylene	0.5	0.516		µg/L		103	63 - 133	3	30
Benzo[k]fluoranthene	0.5	0.528		µg/L		106	56 - 145	1	30
Biphenyl	0.5	0.475		µg/L		95	56 - 119	1	30
Chrysene	0.5	0.501		µg/L		100	56 - 141	2	30
Dibenz[a,h]anthracene	0.5	0.587		µg/L		117	55 - 150	7	30

QC Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-95026-1
 SDG: 625, 8015

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 117782-BS2
Matrix: BlankMatrix
Analysis Batch: O-45058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-45058_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Dibenzo[a,l]pyrene	0.5	0.27		µg/L		54	50 - 150	14	30	
Dibenzothiophene	0.5	0.516		µg/L		103	46 - 126	1	30	
Disalicylidenepropanediamine	50	49.2		µg/L		98	50 - 150	2	30	
Fluoranthene	0.5	0.544		µg/L		109	60 - 146	10	30	
Fluorene	0.5	0.519		µg/L		104	58 - 131	5	30	
Indeno[1,2,3-cd]pyrene	0.5	0.563		µg/L		113	50 - 151	4	30	
Naphthalene	0.5	0.435		µg/L		87	41 - 126	0	30	
Perylene	0.5	0.501		µg/L		100	48 - 141	2	30	
Phenanthrene	0.5	0.509		µg/L		102	67 - 127	2	30	
Pyrene	0.5	0.513		µg/L		103	54 - 156	17	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	91		27 - 133
(d10-Phenanthrene)	99		43 - 129
(d12-Chrysene)	119		52 - 144
(d12-Perylene)	96		36 - 161
(d8-Naphthalene)	83		25 - 125

QC Association Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-95026-1
 SDG: 625, 8015

GC VOA

Analysis Batch: 441358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-95026-1	MOANALUA WELLS	Total/NA	Drinking Water	8015B GRO LL	
380-95026-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015B GRO LL	
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015B GRO LL	
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B GRO LL	
380-95026-5	TB MOANALUA WELLS	Total/NA	Water	8015B GRO LL	
380-95026-6	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015B GRO LL	
380-95026-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015B GRO LL	
380-95026-8	TB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	8015B GRO LL	
MB 570-441358/6	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-441358/4	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-441358/5	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-441358/3	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-95026-4 MS	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B GRO LL	
380-95026-4 MSD	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B GRO LL	

GC Semi VOA

Prep Batch: 440703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-95026-1	MOANALUA WELLS	Total/NA	Drinking Water	3510C	
380-95026-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	3510C	
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	3510C	
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	3510C	
MB 570-440703/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-440703/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-440703/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 444687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-95026-1	MOANALUA WELLS	Total/NA	Drinking Water	8015B	440703
380-95026-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015B	440703
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015B	440703
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B	440703
MB 570-440703/1-A	Method Blank	Total/NA	Water	8015B	440703
LCS 570-440703/2-A	Lab Control Sample	Total/NA	Water	8015B	440703
LCSD 570-440703/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	440703

Subcontract

Analysis Batch: O-45058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-95026-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-45058_P
380-95026-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-45058_P
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-45058_P
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-45058_P
117782-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-45058_P
117782-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-45058_P

Eurofins Eaton Analytical Pomona

QC Association Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-95026-1
 SDG: 625, 8015

Subcontract (Continued)

Analysis Batch: O-45058 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
117782-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-45058_P

Prep Batch: O-45058_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-95026-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
380-95026-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	EPA_625	
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	EPA_625	
117782-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
117782-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
117782-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	



Lab Chronicle

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-95026-1
 SDG: 625, 8015

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-95026-1

Date Collected: 05/07/24 09:34

Matrix: Drinking Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 19:21
Total/NA	Prep	3510C			440703	TR8L	EET CAL 4	05/14/24 22:42
Total/NA	Analysis	8015B		1	444687	SP9M	EET CAL 4	05/27/24 22:32
Total/NA	Prep	EPA_625		1	O-45058_P			05/10/24 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-45058	YC		06/09/24 08:32

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-95026-2

Date Collected: 05/07/24 10:30

Matrix: Drinking Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 19:47
Total/NA	Prep	3510C			440703	TR8L	EET CAL 4	05/14/24 22:42
Total/NA	Analysis	8015B		1	444687	SP9M	EET CAL 4	05/27/24 22:53
Total/NA	Prep	EPA_625		1	O-45058_P			05/10/24 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-45058	YC		06/09/24 10:21

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-95026-3

Date Collected: 05/07/24 11:07

Matrix: Drinking Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 20:13
Total/NA	Prep	3510C			440703	TR8L	EET CAL 4	05/14/24 22:42
Total/NA	Analysis	8015B		1	444687	SP9M	EET CAL 4	05/27/24 23:14
Total/NA	Prep	EPA_625		1	O-45058_P			05/10/24 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-45058	YC		06/09/24 12:10

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-95026-4

Date Collected: 05/07/24 10:01

Matrix: Drinking Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 20:40
Total/NA	Prep	3510C			440703	TR8L	EET CAL 4	05/14/24 22:42
Total/NA	Analysis	8015B		1	444687	SP9M	EET CAL 4	05/27/24 23:34
Total/NA	Prep	EPA_625		1	O-45058_P			05/10/24 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-45058	YC		06/09/24 13:59

Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-95026-5

Date Collected: 05/07/24 09:34

Matrix: Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 17:37

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-95026-6

Date Collected: 05/07/24 10:30

Matrix: Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 18:03

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-95026-7

Date Collected: 05/07/24 11:07

Matrix: Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 18:29

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-95026-8

Date Collected: 05/07/24 10:01

Matrix: Water

Date Received: 05/09/24 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	441358	A9VE	EET CAL 4	05/16/24 18:55

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
California	Los Angeles County Sanitation Districts	10109	08-01-24
California	State	3082	07-31-24
Kansas	NELAP	E-10420	08-01-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	06-11-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

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Method Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Method	Method Description	Protocol	Laboratory
8015B GRO LL	Gasoline Range Organics - (GC)	SW846	EET CAL 4
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	EET CAL 4
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



Sample Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-95026-1
SDG: 625, 8015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-95026-1	MOANALUA WELLS	Drinking Water	05/07/24 09:34	05/09/24 10:44	HI0000331
380-95026-2	AIEA GULCH WELLS PUMP 2	Drinking Water	05/07/24 10:30	05/09/24 10:44	HI0000331
380-95026-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	05/07/24 11:07	05/09/24 10:44	HI0000331
380-95026-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	05/07/24 10:01	05/09/24 10:44	HI0000331
380-95026-5	TB MOANALUA WELLS	Water	05/07/24 09:34	05/09/24 10:44	
380-95026-6	TB AIEA GULCH WELLS PUMP 2	Water	05/07/24 10:30	05/09/24 10:44	
380-95026-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Water	05/07/24 11:07	05/09/24 10:44	
380-95026-8	TB HALAWA WELLS UNITS 1 & 2 P1	Water	05/07/24 10:01	05/09/24 10:44	

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June 18, 2024

Rachelle Arada
 Eurofins Eaton Analytical
 750 Royal Oaks Drive
 Suite 100
 Monrovia, CA 91016-

Project Name: RED HILL Project # 38001111 Job # 380-95026-1
 Physis Project ID: 1407003-509

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 5/10/2024. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,
Rachel Hansen
 Rachel Hansen
 714 602-5320
 Extension 203
 rachelhansen@physislabs.com



PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-509

RED HILL Project # 38001111 Job # 380-95026-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
117783	MOANALUA WELLS	380-95026-1	5/7/2024	9:34	Samplewater	Not Specified
117784	AIEA GULCH WELLS PUMP 2	380-95026-2	5/7/2024	10:30	Samplewater	Not Specified
117785	AIEA GULCH WELLS PUMPS 1&2 (26)	380-95026-3	5/7/2024	11:07	Samplewater	Not Specified
117786	HALAWA WELLS UNITS 1 & 2 P1	380-95026-4	5/7/2024	10:01	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

BIANALYTICALS

REPORT

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 117783-R1	MOANALUA WELLS 380-95026-1		Matrix: Samplewater					Sampled: 07-May-24 9:34		Received: 10-May-24	
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-45058	10-May-24	09-Jun-24
Sample ID: 117784-R1	AIEA GULCH WELLS PUMP 2 380-9		Matrix: Samplewater					Sampled: 07-May-24 10:30		Received: 10-May-24	
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-45058	10-May-24	09-Jun-24
Sample ID: 117785-R1	AIEA GULCH WELLS PUMPS 1&2 (2		Matrix: Samplewater					Sampled: 07-May-24 11:07		Received: 10-May-24	
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-45058	10-May-24	09-Jun-24
Sample ID: 117786-R1	HALAWA WELLS UNITS 1 & 2 P1 38		Matrix: Samplewater					Sampled: 07-May-24 10:01		Received: 10-May-24	
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 117783-R1	MOANALUA WELLS 380-95026-1	Matrix: Samplewater					Sampled: 07-May-24 9:34			Received: 10-May-24	
(d10-Acenaphthene)	EPA 625.1	% Recovery	74	1			Total		O-45058	10-May-24	09-Jun-24
(d10-Phenanthrene)	EPA 625.1	% Recovery	81	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Chrysene)	EPA 625.1	% Recovery	97	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Perylene)	EPA 625.1	% Recovery	84	1			Total		O-45058	10-May-24	09-Jun-24
(d8-Naphthalene)	EPA 625.1	% Recovery	69	1			Total		O-45058	10-May-24	09-Jun-24
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 117784-R1	AIEA GULCH WELLS PUMP 2 380-9 Matrix: Samplewater						Sampled: 07-May-24 10:30		Received:	10-May-24	
(d10-Acenaphthene)	EPA 625.1	% Recovery	98	1			Total		O-45058	10-May-24	09-Jun-24
(d10-Phenanthrene)	EPA 625.1	% Recovery	100	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Chrysene)	EPA 625.1	% Recovery	107	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Perylene)	EPA 625.1	% Recovery	107	1			Total		O-45058	10-May-24	09-Jun-24
(d8-Naphthalene)	EPA 625.1	% Recovery	86	1			Total		O-45058	10-May-24	09-Jun-24
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 117785-R1	AIEA GULCH WELLS PUMPS 1&2 (2 Matrix: Samplewater)						Sampled: 07-May-24 11:07		Received: 10-May-24		
(d10-Acenaphthene)	EPA 625.1	% Recovery	88	1			Total		O-45058	10-May-24	09-Jun-24
(d10-Phenanthrene)	EPA 625.1	% Recovery	93	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Chrysene)	EPA 625.1	% Recovery	104	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Perylene)	EPA 625.1	% Recovery	93	1			Total		O-45058	10-May-24	09-Jun-24
(d8-Naphthalene)	EPA 625.1	% Recovery	79	1			Total		O-45058	10-May-24	09-Jun-24
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 117786-R1	HALAWA WELLS UNITS 1 & 2 P1 38 Matrix: Samplewater						Sampled: 07-May-24 10:01		Received: 10-May-24		
(d10-Acenaphthene)	EPA 625.1	% Recovery	97	1			Total		O-45058	10-May-24	09-Jun-24
(d10-Phenanthrene)	EPA 625.1	% Recovery	102	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Chrysene)	EPA 625.1	% Recovery	111	1			Total		O-45058	10-May-24	09-Jun-24
(d12-Perylene)	EPA 625.1	% Recovery	102	1			Total		O-45058	10-May-24	09-Jun-24
(d8-Naphthalene)	EPA 625.1	% Recovery	86	1			Total		O-45058	10-May-24	09-Jun-24
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45058	10-May-24	09-Jun-24



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 117782-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:				
		Method: EPA 625.1			Batch ID: O-45058		Prepared: 10-May-24		Analyzed: 09-Jun-24				
Disalicylidenepropanediamine	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 117782-BS1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:				
		Method: EPA 625.1			Batch ID: O-45058		Prepared: 10-May-24		Analyzed: 09-Jun-24				
Disalicylidenepropanediamine	Total	48.1	1	0.05	0.1	µg/L	50	0	96	50 - 150%	PASS		
Sample ID: 117782-BS2		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:				
		Method: EPA 625.1			Batch ID: O-45058		Prepared: 10-May-24		Analyzed: 09-Jun-24				
Disalicylidenepropanediamine	Total	49.2	1	0.05	0.1	µg/L	50	0	98	50 - 150%	PASS	2	30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 117782-B1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1				Batch ID: O-45058		Prepared: 10-May-24		Analyzed: 09-Jun-24		
(d10-Acenaphthene)	Total	95	1				% Recovery	100	95	27 - 133%	PASS	
(d10-Phenanthrene)	Total	97	1				% Recovery	100	97	43 - 129%	PASS	
(d12-Chrysene)	Total	113	1				% Recovery	100	113	52 - 144%	PASS	
(d12-Perylene)	Total	102	1				% Recovery	100	102	36 - 161%	PASS	
(d8-Naphthalene)	Total	86	1				% Recovery	100	86	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L						
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
Acenaphthene	Total	ND	1	0.001	0.005	µg/L						
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L						
Anthracene	Total	ND	1	0.001	0.005	µg/L						
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L						
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L						
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L						
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L						
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L						
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L						
Biphenyl	Total	ND	1	0.001	0.005	µg/L						
Chrysene	Total	ND	1	0.001	0.005	µg/L						
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L						
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L						

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 117782-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
Method: EPA 625.1		Batch ID: O-45058			Prepared: 10-May-24		Analyzed: 09-Jun-24						
(d10-Acenaphthene)	Total	92	1			% Recovery	100	0	92	27 - 133%	PASS		
(d10-Phenanthrene)	Total	99	1			% Recovery	100	0	99	43 - 129%	PASS		
(d12-Chrysene)	Total	115	1			% Recovery	100	0	115	52 - 144%	PASS		
(d12-Perylene)	Total	93	1			% Recovery	100	0	93	36 - 161%	PASS		
(d8-Naphthalene)	Total	85	1			% Recovery	100	0	85	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.523	1	0.001	0.005	µg/L	0.5	0	105	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	47 - 130%	PASS		
Acenaphthene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS		
Acenaphthylene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	43 - 140%	PASS		
Anthracene	Total	0.489	1	0.001	0.005	µg/L	0.5	0	98	58 - 135%	PASS		
Benz[a]anthracene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.556	1	0.001	0.005	µg/L	0.5	0	111	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.513	1	0.001	0.005	µg/L	0.5	0	103	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.502	1	0.001	0.005	µg/L	0.5	0	100	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	56 - 145%	PASS		
Biphenyl	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	56 - 119%	PASS		
Chrysene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.543	1	0.001	0.005	µg/L	0.5	0	109	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.309	1	0.001	0.005	µg/L	0.5	0	62	50 - 150%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE ^c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	46 - 126%	PASS		
Fluoranthene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	60 - 146%	PASS		
Fluorene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.547	1	0.001	0.005	µg/L	0.5	0	109	50 - 151%	PASS		
Naphthalene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	41 - 126%	PASS		
Perylene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	48 - 141%	PASS		
Phenanthrene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	67 - 127%	PASS		
Pyrene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 117782-BS2		QAQC Procedural Blank				Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1				Batch ID: O-45058			Prepared: 10-May-24		Analyzed: 09-Jun-24			
(d10-Acenaphthene)	Total	91	1			% Recovery	100	0	91	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	99	1			% Recovery	100	0	99	43 - 129%	PASS	0	30	PASS
(d12-Chrysene)	Total	119	1			% Recovery	100	0	119	52 - 144%	PASS	3	30	PASS
(d12-Perylene)	Total	96	1			% Recovery	100	0	96	36 - 161%	PASS	3	30	PASS
(d8-Naphthalene)	Total	83	1			% Recovery	100	0	83	25 - 125%	PASS	2	30	PASS
1-Methylnaphthalene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	31 - 128%	PASS	7	30	PASS
1-Methylphenanthrene	Total	0.577	1	0.001	0.005	µg/L	0.5	0	115	66 - 127%	PASS	9	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.494	1	0.001	0.005	µg/L	0.5	0	99	55 - 122%	PASS	1	30	PASS
2,6-Dimethylnaphthalene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	48 - 120%	PASS	0	30	PASS
2-Methylnaphthalene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	43 - 140%	PASS	0	30	PASS
Anthracene	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	58 - 135%	PASS	7	30	PASS
Benz[a]anthracene	Total	0.567	1	0.001	0.005	µg/L	0.5	0	113	55 - 145%	PASS	3	30	PASS
Benzo[a]pyrene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	51 - 143%	PASS	2	30	PASS
Benzo[b]fluoranthene	Total	0.551	1	0.001	0.005	µg/L	0.5	0	110	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	63 - 133%	PASS	3	30	PASS
Benzo[k]fluoranthene	Total	0.528	1	0.001	0.005	µg/L	0.5	0	106	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.587	1	0.001	0.005	µg/L	0.5	0	117	55 - 150%	PASS	7	30	PASS
Dibenzo[a,l]pyrene	Total	0.27	1	0.001	0.005	µg/L	0.5	0	54	50 - 150%	PASS	14	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY			PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	46 - 126%	PASS	1	30	PASS
Fluoranthene	Total	0.544	1	0.001	0.005	µg/L	0.5	0	109	60 - 146%	PASS	10	30	PASS
Fluorene	Total	0.519	1	0.001	0.005	µg/L	0.5	0	104	58 - 131%	PASS	5	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.563	1	0.001	0.005	µg/L	0.5	0	113	50 - 151%	PASS	4	30	PASS
Naphthalene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	41 - 126%	PASS	0	30	PASS
Perylene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	48 - 141%	PASS	2	30	PASS
Phenanthrene	Total	0.509	1	0.001	0.005	µg/L	0.5	0	102	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.513	1	0.001	0.005	µg/L	0.5	0	103	54 - 156%	PASS	17	30	PASS



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PHYSIS
TENTATIVELY
IDENTIFIED COMPOUNDS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample ID: 117783

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.3174	3.0239	1111	Anthracene-D10-	1517-22-2	95
65.8022	2.1635	795	Heptacosane	593-49-7	96
55.2671	1.3039	479	Benzyl butyl phthalate	85-68-7	96
56.7901	1.2213	449	Tetracosane	646-31-1	98
73.9020	0.6074	223	Octacosane	630-02-4	93
10.2609	0.4703	173	Hydroperoxide, 1-ethylbutyl	24254-56-6	82
10.6170	0.4207	155	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	88
10.4215	0.4134	152	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
53.5474	0.3327	122	Heneicosane	629-94-7	96

Concentration estimated using the response for Anthracene-d10

Sample ID: 117784

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9049	2.8831	1111	Anthracene-D10-	1719-06-8	97
55.2810	0.9144	352	Benzyl butyl phthalate	85-68-7	96
10.2615	0.5199	200	Hydroperoxide, 1-ethylbutyl	24254-56-6	82
10.4220	0.4214	162	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
62.9206	0.3677	142	Heneicosane	629-94-7	94
11.4751	0.3109	120	1-Hexanol, 2-ethyl-	104-76-7	98

Concentration estimated using the response for Anthracene-d10

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Sample ID: 117785

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9033	2.9127	1111	Anthracene-D10-	1517-22-2	96
80.4735	1.7163	655	4(1H)-Pyridinone, 1,2,6-trimethyl-3,5-diphenyl-	42215-29-2	67
80.4732	1.7108	653	Bis(ethoxycarbonyl)-5,5-dimethoxycarbonyl--N-methylisoxazolidine, 3,4-cis	71167-58-3	59
29.4281	1.4759	563	1,2-Ethanediol	107-21-1	46
62.9169	1.4235	543	Heptacosane	593-49-7	93
55.2738	1.0799	412	Benzyl butyl phthalate	85-68-7	95
71.1540	0.8598	328	Benzaldehyde, 4-(5-phenyl-2-oxazolyl)-, oxime	1000262-81-2	42
34.9073	0.7242	276	Sulfapyridine	144-83-2	51
71.3079	0.6989	267	Heneicosane	629-94-7	89
10.2625	0.6827	260	Hydroperoxide, 1-ethylbutyl	24254-56-6	84
71.3083	0.6803	260	Octacosane	630-02-4	90
80.4836	0.6309	241	3,6-Dibromoquinoline	69268-39-9	45
80.4827	0.5826	222	(4-Bromo-2-phenyl-1-benzofuran-6-yl)amine	1010460-29-6	45
65.8144	0.5515	210	1H-Tetrazol-5-amine	4418-61-5	62
29.4242	0.5262	201	2-Aminopent-4-enoic acid, N-(but-2-yn-1-yloxy carbonyl)-, but-2-yn-1-yl ester	1000393-19-8	48
17.7121	0.5218	199	Oxalic acid, 2TMS derivative	18294-04-7	58
35.3216	0.4555	174	2H-Pyrido[1,2-a]pyrimidin-2-one, 4-methyl-	35549-22-5	43
10.6183	0.4476	171	3,3-Diethoxy-1-propyne	10160-87-9	89
62.9208	0.4149	158	Furan, tetrahydro-2-methyl-	96-47-9	77
80.4654	0.3961	151	Valine, N-methyl-N-methoxycarbonyl-, octyl ester	1000328-93-6	47
23.5458	0.3844	147	1H-Pyrrole, 2-methyl-	636-41-9	66
29.4231	0.3577	136	Methanamine, N-methyl-N-nitro-	4164-28-7	41
17.7122	0.3468	132	3,3-Dichloropropyne	25523-14-2	53
32.0499	0.3389	129	Benzoic acid, 2-ethylhexyl ester	5444-75-7	96
10.4227	0.3370	129	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	88
10.4227	0.3287	125	1-Methyl-4-(1-methylethyl)-cyclohexane	99-82-1	88
58.9352	0.3221	123	Glutarimide, N-(2-phenylpropyl)-	1000360-83-4	43
58.9353	0.3157	120	2-(5-Phenyl-1H-1,2,4-triazol-3-yl)phenol	65483-94-5	43
10.9650	0.3120	119	1-Butene, 2,3,3-trimethyl-	594-56-9	90
10.9647	0.3108	119	Oxalic acid, cyclohexyl isobutyl ester	1000309-30-4	91
35.3391	0.3102	118	1,3-Dioxolane, 2,2'-(1,2-ethanediyl)bis[2-methyl-	944-26-3	52

Concentration estimated using the response for Anthracene-d10

Sample ID: 117786

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.3240	3.0779	1111	Anthracene-D10-	1517-22-2	94
55.2748	1.1551	417	Benzyl butyl phthalate	85-68-7	94
62.9187	1.0168	367	Hexacosane	630-01-3	96
65.8154	0.8785	317	Octacosane	630-02-4	95
59.9136	0.8000	289	Pentacosane	629-99-2	95
59.9136	0.7512	271	Hexadecane, 2,6,10,14-tetramethyl-	638-36-8	92
68.6033	0.6859	248	Heneicosane	629-94-7	95
10.6159	0.6271	226	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	88
11.4642	0.4750	171	1-Hexanol, 2-ethyl-	104-76-7	99
56.7952	0.4455	161	Tetracosane	646-31-1	93
32.0469	0.3875	140	Benzoic acid, 2-ethylhexyl ester	5444-75-7	97
10.2605	0.3834	138	Hydroperoxide, 1-ethylbutyl	24254-56-6	81
27.5998	0.3541	128	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	97
10.4212	0.3324	120	Ethanone, 1-(1-methylcyclohexyl)-	2890-62-2	89

Concentration estimated using the response for Anthracene-d10

Sample ID: B1_45048

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.3200	3.1366	1111	Anthracene-D10-	1517-22-2	94
10.2610	0.7026	249	Hydroperoxide, 1-ethylbutyl	24254-56-6	84
10.6178	0.4761	169	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	88

Concentration estimated using the response for Anthracene-d10

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PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC.
AURA

Innovative Solutions for Nature

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Sample Receipt Summary

Project Iteration ID: 1407003-509
 Client Name: Eurofins Eaton Analytical
 Project Name: RED HILL Project # 38001111
 Job # 380-95026-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Receiving Info

1. Initials Received By: SW
 2. Date Received: 5/10/24
 3. Time Received: 11:10
 4. Client Name: Eurofins
 5. Courier Information: (Please circle)
 Client
 FedEx
 UPS
 GSO/GLS
 PHYSIS Driver:

6. Container Information: (Please put the # of containers or circle none)
 i. Start Time: _____
 ii. End Time: _____
 iv. Number of Pickups: _____
 iii. Total Mileage: _____
 Cooler
 Styrofoam Cooler
 Boxes
 None
 Carboy(s)
 Carboy Trash Can(s)
 Carboy Cap(s)
 Other
 None
 Wet Ice
 Blue Ice
 Dry Ice
 8. Randomly Selected Samples Temperature (°C): -1.9°C
 Water
 None
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [Signature]

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes / No
2. All sample containers arrived intact..... Yes / No
3. All samples listed on COC(s) are present..... Yes / No
4. Information on containers consistent with information on COC(s)..... Yes / No
5. Correct containers and volume for all analyses indicated..... Yes / No
6. All samples received within method holding time..... Yes / No
7. Correct preservation used for all analyses indicated..... Yes / No
8. Name of sampler included on COC(s)..... Yes / No

Notes:

Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone (626) 386-1100



Chain of Custody Record

Client Information Client Contact: Dr Ron Fenstermacher City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State Zip: HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill Site:		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.euronisus.com Carner Tracking No(s): 380-27984-2757.2 State of Origin: Page 1 of 1 Job #:	
Due Date Requested: [blank] TAT Requested (days): [blank] Compliance Project: Δ No PO #: C20525101 exp 05312023 WO #: [blank]		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No SUBCONTRACT 625 PAH Physics LL (EAL) + TICs 8015B_GRO_LL (MOD) GRO 8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8 C18 525.2_PREC - (MOD) 525plus PLUS TICs 537.1_DW_PREC - 537.1 Full List 533 - All Analytes	
Sample Identification MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260) P2 HALAWA WELLS UNITS 1&2 P1		Total Number of Containers: <input checked="" type="checkbox"/>	
Sample Date 05-07-2024 05-07-2024 05-07-2024 05-07-2024	Sample Time 0934 1030 1107 1001	Sample Type (C=Comp, G=grab) G G G G	Matrix (W=water, S=solid, O=soil, D=dust, A=air) Water Water Water Water
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV Other (specify)		Special Instructions/Note: chlorinated chlorinated 380-95026 COC	
Empty Kit Relinquished by: [redacted] Relinquished Date/Time: 08/19/2024 1400 Relinquished Date/Time: [blank] Relinquished Date/Time: [blank]		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months Special Instructions/QC Requirements:	
Custody Seal Intact Δ Yes Δ No Custody Seal No		Date: 08/19/2024 1400 Date/Time: 05/09/2024 10:44 Date/Time: [blank] Date/Time: [blank]	



Ver 01/16/2019

Eurofins Eaton Analytical Pomona

941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record



eurofins

Environment Testing

Loc: 380
95026

Client Information (Sub Contract Lab)		Sampler:		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-124387.1																					
Client Contact: Shipping/Receiving		Phone:		E-Mail: Rachele.Arada@et.eurofinsus.com		State of Origin: Hawaii		Page: Page 1 of 1																					
Company: Eurofins Environment Testing Southwest,				Accreditations Required (See note): State - Hawaii				Job #: 380-95026-1																					
Address: 2841 Dow Avenue, Suite 100,		Due Date Requested: 5/30/2024		<table border="1"> <tr> <th colspan="4">Analysis Requested</th> </tr> <tr> <td colspan="4" style="text-align: center;"> </td> </tr> <tr> <td colspan="4" style="text-align: center;">380-95026 Chain of Custody</td> </tr> <tr> <td colspan="4"> </td> </tr> <tr> <td colspan="4"> </td> </tr> </table>				Analysis Requested								380-95026 Chain of Custody												Preservation Codes: Special Instructions/Note:	
Analysis Requested																													
380-95026 Chain of Custody																													
City: Tustin		TAT Requested (days):																											
State, Zip: CA, 92780		PO #:																											
Phone: 714-895-5494(Tel)		WO #:																											
Email:		Project #: 38001111																											
Project Name: RED-HILL		SSOW#:		Site: Honolulu BWS Sites		Field Filtered Sample (Yes or No)		Total Number of Containers																					
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=soils/sed, ST=Tissue, A=Air)																					
MOANALUA WELLS (380-95026-1)		5/7/24		09:34 Hawaiian		Water		X X																					
AIEA GULCH WELLS PUMP 2 (380-95026-2)		5/7/24		10:30 Hawaiian		Water		X X																					
AIEA WELLS PUMPS 1&2 (260) P2 (380-95026-3)		5/7/24		11:07 Hawaiian		Water		X X																					
HALAWA WELLS UNITS 1 & 2 P1 (380-95026-4)		5/7/24		10:01 Hawaiian		Water		X X																					
TB MOANALUA WELLS (380-95026-5)		5/7/24		09:34 Hawaiian		Water		X																					
TB AIEA GULCH WELLS PUMP 2 (380-95026-6)		5/7/24		10:30 Hawaiian		Water		X																					
TB AIEA WELLS PUMPS 1&2 (260) P2 (380-95026-7)		5/7/24		11:07 Hawaiian		Water		X																					
TB HALAWA WELLS UNITS 1 & 2 P1 (380-95026-8)		5/7/24		10:01 Hawaiian		Water		X																					
Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.																													
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																								
Unconfirmed					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																								
Deliverable Requested: I, II, III, IV, Other (specify)			Primary Deliverable Rank: 2		Special Instructions/QC Requirements:																								
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																							
Relinquished by: <i>[Signature]</i>		Date/Time: 5/7/24 09:53		Company: <i>[Signature]</i>		Received by: <i>Omar</i>		Date/Time: 5/10/24 - 8:50																					
Relinquished by: <i>Omar</i>		Date/Time: 5/10/24 9:10		Company: <i>[Signature]</i>		Received by: <i>[Signature]</i>		Date/Time: 5/10/24 09:50																					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:																					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.9/2.0 S44																									

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-95026-1

SDG Number: 625, 8015

Login Number: 95026

List Number: 1

Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-95026-1

SDG Number: 625, 8015

Login Number: 95026

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 05/10/24 04:39 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

